

Memorandum



Date: September 14, 2016

From: WHO Collaborating Center for  
Research, Training and Eradication of Dracunculiasis, CDC

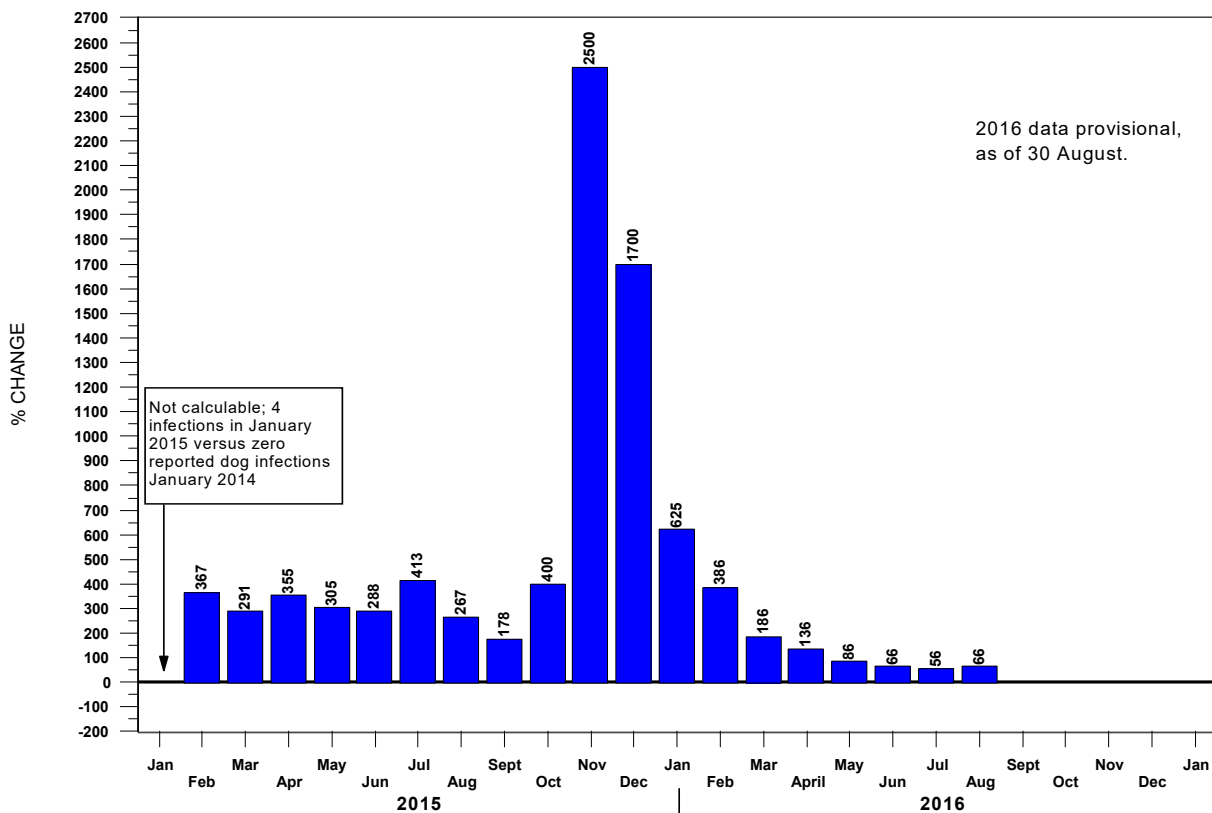
Subject: GUINEA WORM WRAP-UP #243

To: Addressees

***Detect and Contain Every Guinea Worm Infection Immediately!!!*****CHAD: INCREASE IN DOG INFECTIONS IS SLOWING**

The rate of increase in dogs infected with Guinea worms in Chad appears to finally be declining (Figure 1) in response to efforts to prevent new infections of dogs (bury fish entrails), contain infected dogs (tethering), and encourage reporting of dog infections (cash reward) that began in October 2013, February 2014, and February 2015, respectively. This downward trend has remained steady in 2016 despite inclusion of additional new villages with active surveillance (VAS) (encompassing 763 VAS during Jan-Jul 2015 vs 1,394 VAS currently). Enhanced interventions over the past year, according to the most recent data, show that in Figure 1

Chad Guinea Worm Eradication Program  
Percent Change in Dog Infections with Guinea Worms in 2015-2016  
Against Same Month of Previous Year



2016 approximately 86% of 1,336 residents surveyed, and 63% of 338 fish vendors surveyed during July 2016 reported disposing of fish entrails safely, 77% of 858 infected dogs were tethered, and 86% of surveyed residents knew of the cash reward for reporting and tethering an infected dog. The goal is to get to fewer dog infections in current months than in the same months of the previous year, and eventually to zero new infections in dogs (Figure 1). Chad has reported a total of 858 infected dogs in 219 villages in January-August 2016, of which 77% of the infected dogs and 82% of their 1,683 Guinea worms were contained (Table 1).

Meanwhile, analysis of the locations of dog infections in Chad reveals pronounced clustering of infected dogs in a small number of zones and villages. As shown in Table 1, during January-July 2016 dogs in Marabe zone in Kyabe district of Moyen-Chari Region reported an incidence of Guinea worm infections of 12.5%, and accounted for 19.3% (150/778) of all infected dogs in the country. This zone was placed under active village-based surveillance in March 2015. Only 53% of the 59 infected dogs in the zone in 2015 were contained (tethered). When the results in Marabe zone are parsed by village, it is evident that Marabe II village has generated many more dog infections in 2016 than any other village in the zone, with 81% of the resident dogs in Marabe II village infected with Guinea worms during 2016 so far (Figure 3). Moreover, 23% of the 256 households in Marabe II village reported dogs infected with Guinea worms, vs. an overall average of only 3% of households with infected dogs in the zone. Chad's GWEP is trying to find out why dog infections are clustered in this zone, village and affected households.

Chad reported two Guinea worm cases, its 5th and 6th cases of this year, in July (Table 2). Both cases occurred in Salamat Region; one of them was contained. A seventh case (not contained) was reported in August (Table 2). Chad reported 8 cases (0 contained) in January-August 2015.

Research continues to understand better the “peculiar epidemiology” of Guinea worm infections and explore possible additional control measures in Chad, including on-going study of potential anti-helminthic treatments to prevent development of Guinea worm infections in dogs, ecological study of dogs in affected areas, and investigation of various animals' susceptibility to experimental infection. Examination of specimens obtained in Chad during a visit there in July recently detected *D. medinensis* infection in a wild-caught frog (see publication referenced below).

Table 1  
**Chad Guinea Worm Eradication Program**  
**Number of Dogs Infected With Guinea Worms, and Percentage of Dogs and**  
**Guinea Worms Contained in 1,492 Villages under Active Surveillance: Jan. - Aug. 2016\***

Month	Number of Dogs infected with Guinea worms	Percent of dogs Contained	Number of Guinea worms extracted	Percent of Guinea worms Contained
January	29	86%	39	90%
February	68	63%	104	68%
March	123	81%	212	83%
April	118	83%	269	87%
May	158	83%	330	86%
June	161	75%	367	83%
July	128	75%	239	80%
August*	73	70%	123	72%
Total	858	77%	1,683	82%

\*Provisional

Table 2

Chad Guinea Worm Eradication Program  
Line Listing of Cases of GWD During 2016\*

Case #	Village or Locality of detection			District	Region	Patient			Case Contained?		1 = imported 2= indigenous	Home Village or Locality			Presumed Source of infection identified?		Presumed Source of infection is a known VAS?	
	Name	1 or 2= VAS	3= VNAS			Age	Sex	Date GW emerged (D/M/Y)	(Yes, No, or Pending)	If no, date of Abate Rx		Name	1 or 2 = VAS	3= VNAS	(Yes or No)	Name	(Yes or No)	Actions/Comments?
1.1	Sarh (quartier Kassai)		3	Sarh	Moyen Chari	12	M	28-Feb-16	Yes	-	2	Sarh (quartier Kassai)		3	No	-	-	Patient visits the health center during the day and returns to the house each evening with his grandmother.
1.2								1-Mar-16	Yes	-	2					-	-	
1.3								29-Mar-16	Yes	-	2					-	-	
2.1	Ngara (quartier Mani)	1		Bailli	Chari Baguirmi	5	M	29-Apr-16	Yes	-	2	Ngara	1		No	-	-	
3.1	Gole (quartier Massa)	1		Onoko	Chari Baguirmi	11	F	25-May-16	Yes	-	2		1		Possible	Pond across the river	Yes	The household is in enclave separate from the VAS. No Village Vollerunteer was serving that specific area.
3.2								16-Jun-16	Yes	-	2						-	
4.1	Mama		3	Korbol	Moyen Chari	38	F	2-Jun-16	No	N/A (Chari)	2	Mama		3	No	-	-	Patient crossed river traveling to health center, with worm submerged in the water.
5.1	Kombol	2		Haraze	Salamat	60	F	7-Jul-16	Yes		2	Kombol	2		No	-	-	First GW contained, but patient entered water source before realizing a second worm was emerging.
5.2	Kombol	2		Haraze	Salamat	60	F	4-Aug-16	No	16-Aug-16	2	Kombol	2		No	-	-	
6.1	Dankolo	1		Danamadji	Moyen Chari	55	M	30-Jul-16	Yes	-	2	Dankolo	1		No	-	-	
6.2	Dankolo	1		Danamadji	Moyen Chari	55	M	11-Aug-16	Yes	-	2	Dankolo	1		No	-	-	
7.1	Al - Ardep	2		Aboudeia	Salamat	24	F	10-Aug-16	No	-	2	Al-Ardep	2		No	-	-	

\*Provisional

VAS = village under active surveillance in level 1 or 2 areas

VNAS = village not under active surveillance, level 3 areas

Figure 2

**Chad Guinea Worm Eradication Program**  
**Eleven Zones and Districts Reporting 553 (71%) of 778 Dogs Infected with**  
**Guinea Worms During January-July 2016\***

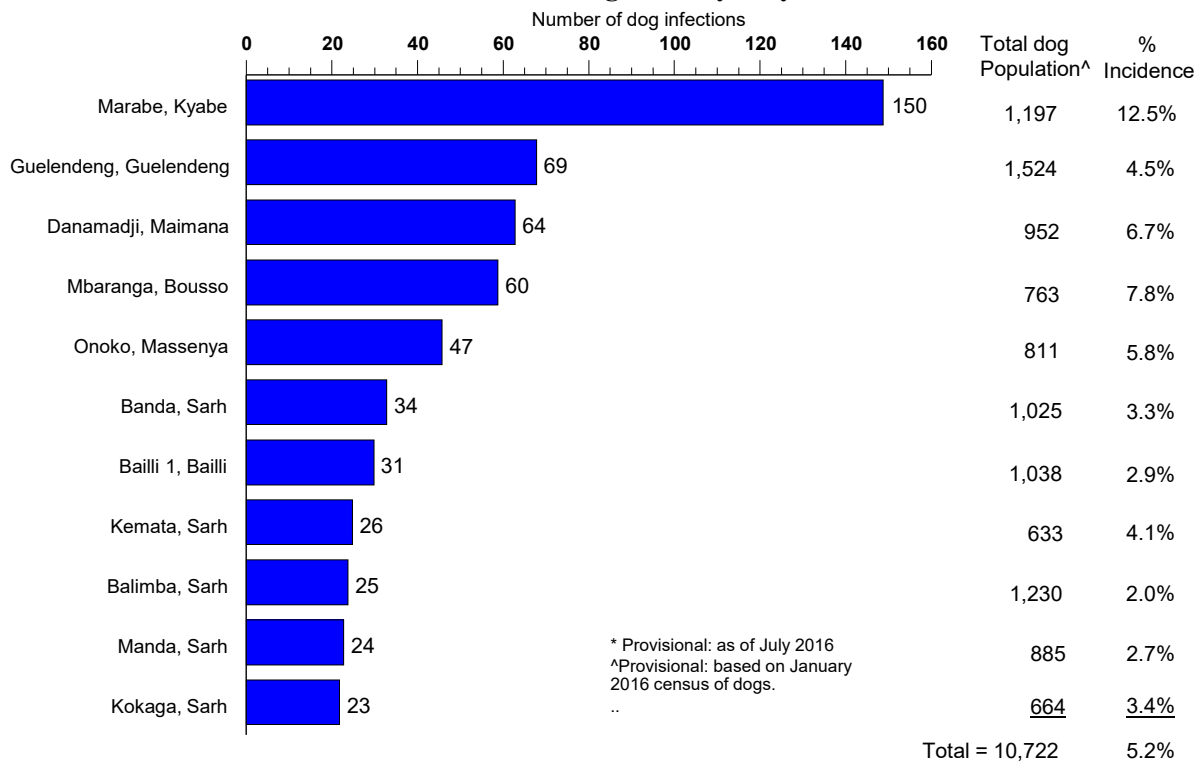
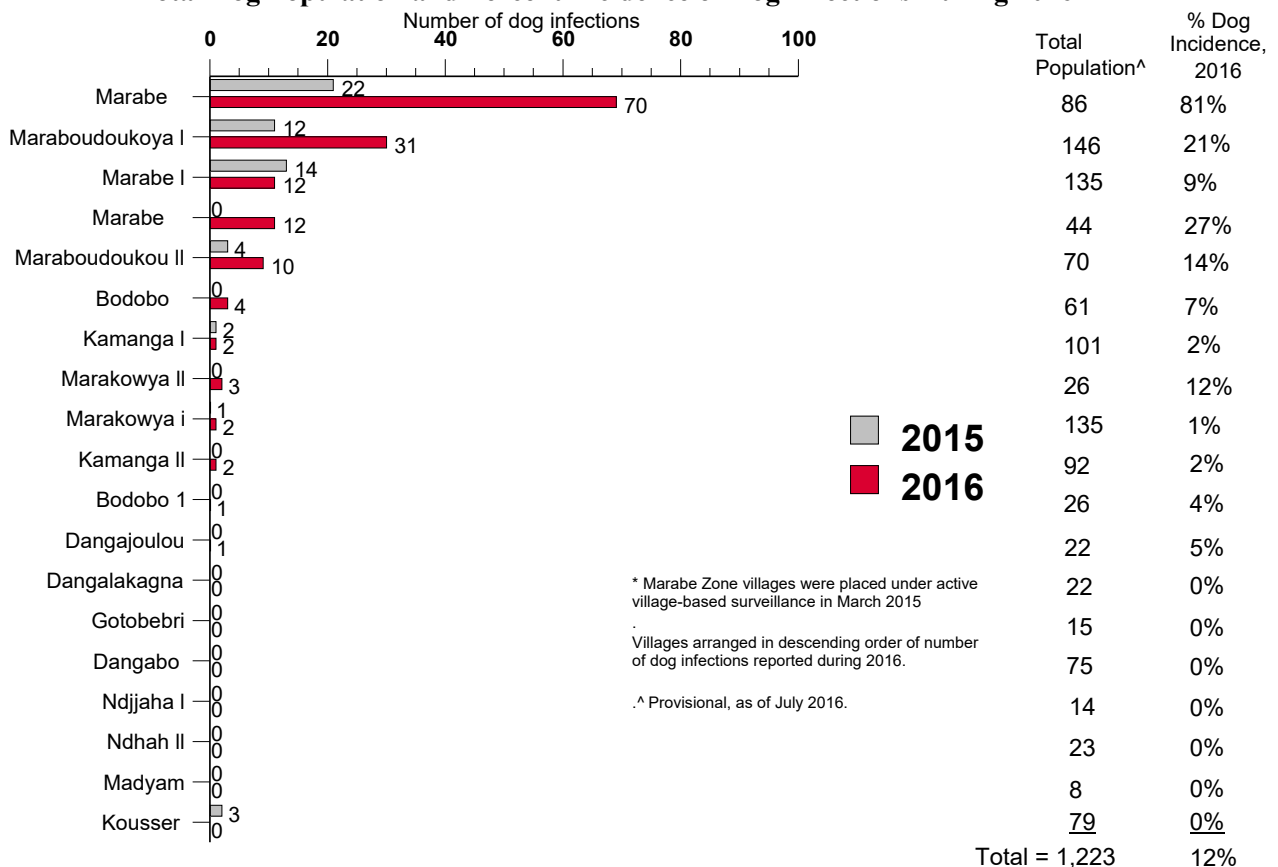


Figure 3

**Chad Guinea Worm Eradication Program**  
**Villages in Marabe\* Zone Reporting Dogs Infected with Guinea Worms During 2015-2016,**  
**Total Dog Population and Percent Incidence of Dog Infections During 2016<sup>^</sup>**



## ETHIOPIA: ABATE TREATMENTS INCREASED IN 2016

Despite more aggressive use of Abate to treat surface water sources monthly in and around areas with known Guinea worm (GW) infections in humans and/or animals during 2015, all in Gog woreda (district) of Gambella Region, infections have persisted in 2016, with 2 Guinea worm cases in humans (both contained) (Table 3), 3 infected dogs (1 contained) and 1 infected baboon in January-August. The six infections are laboratory-confirmed as *Dracunculus medinensis*. Specimens from 7 more dogs and another baboon are in transit to Atlanta for possible confirmation. All evidence since 2014 suggests that residual GW transmission is now occurring mainly in forest areas near Atheti, Wichini, Ablen, Abawiri, and Utuyu villages (located within 10 kilometers-6 miles-of each other) in Atheti kebele (subdistrict) of Gog district, as well as near Akweramero and possibly Pigtin in Gog Janjor kebele of Gog district, not in the villages themselves. Ethnic Agnuak males 10 years old or older engaged in forest activities such as hunting, collecting honey, wood, or yams, and/or farming at the edge of the forest are at highest risk. Some dogs are used for hunting and as guards against baboons. Transmission may be via eating aquatic paratenic hosts as in Chad or via contaminated drinking water or both. The numbers of resident humans and dogs and estimated number of baboons killed by villagers or their dogs so far in 2016 in Ablen, Atheti and Wichini are summarized below:

Ethiopian Dracunculiasis Eradication Program  
Human Cases of GWD, Animal Infections with Guinea Worms in Gog District, Gambella Region During 2016\*

Village	Number of Resident Humans	Human Cases <sup>1</sup>	Number of Resident Dogs	Dog Infections <sup>2</sup>	Number of Baboons Killed by Residents	Baboon Infections Identified <sup>3</sup>
Ablen	229	0	46	1	8	0
Atheti	35	0	56	1	11	0
Wichini	169	0	40	0	6	0

\* Provisional: Jan-Aug.

<sup>1</sup> Two human cases: one case detected in Olane Village and one in Pugnido Town.

<sup>2</sup> One of three dog infections with GWs detected in Akewramero Village

<sup>3</sup> One baboon infected with GW detected in Abawiri village

To counter this persistent challenge, in 2016 the Ethiopian Dracunculiasis Eradication Program (EDEP) has added three more Abate teams and captains (total now 4) in Gog district, divided the district into two separate coverage areas for two technical assistants, and expanded promotion of the cash reward for reporting infected dogs to all of Gog district. It also has identified numerous additional smaller sources of water that may be used by animals even if not by humans, including stagnant pools formed as streams dry up. For example, in July 2015 the EDEP treated 44 surface water sources in Atheti kebele/subdistrict with Abate, which were the main water sources used by those communities, but in July 2016 it treated 131 water sources in the same subdistrict.

The Ethiopia Public Health Institute (EPHI) named a new National Program Coordinator for the EDEP on September 2. He is Mr. Getaneh Abrha Estayew, who has worked in different capacities at the EPHI since 2007, including in Public Health Emergency Management since 2009. He earned a Masters of Public Health in Field Epidemiology from Addis Ababa University in 2014. He replaces Mr. Amanu Shifara, who left the position in early July. Welcome Mr. Getaneh!

From June 18-29, the EDEP conducted a field mission to Amhara Region jointly with the World Health Organization and The Carter Center to assess pre-certification activities currently in place at various levels of the health system, as well as the level of awareness of the cash reward among health workers and community members. The mission found that the National Secretariat has good records of GWD surveillance in levels I and II kebeles and has a national hotline that is manned during normal working

Table 3

Ethiopia Dracunculiasis Eradication Program  
Line Listing of Cases of GWD During 2016\*

Case #	Village or Locality of Detection		District	Region	Patient			Case Contained?		1 = Imported 2 = Indigenous	Home Village or Locality			Presumed Source of infection identified?	Presumed Source of Infection is a Known VAS?	
	Name	1 or 2 = VAS			Age	Sex	Date GW Emerged (D/M/Y)	(Yes, No, or Pending)	If no, Date of Abate Rx		Name	1 = VAS	3 = VNAS	(Yes or No)	(Yes or No)	Actions/Comments?
1.1	Olane	1	Gog	Gambella	14	M	20-May-16	Yes		2	Olane	1		No		Transmission is suspected to have occurred in the farming area or the nearby forest area for Olane Village. Case was primarily farming, hunting and collecting honey in this area from March to July 2015.
2.1	PRC-Agnuak	1	Gog	Gambella	40	M	30-Jun-16	Yes		2	PRC-Agnuak	1		No		Transmission is suspected to have occurred in forest area near Abawiri and Utuyu-Nyikani Villages. In April to August 2015, the case would regularly travel to this forest area to collect wood.

\*Provisional

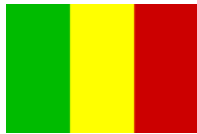
VAS = village under active surveillance in level 1 or 2 areas

VNAS = village not under active surveillance, level 3 areas

hours for receiving and recording rumors from level III kebeles. The levels of awareness of the cash reward by community members (14.6% of 164 surveyed) and health workers, however, were not satisfactory. The EDEP conducted training in Amhara, Oromia, Tigray and SNNP Regions on July 9-27 to help equip zonal health staff with basic information about GWD and understanding of the objective of the EDEP. Public Service Announcements about the GW program aired three times a day on national television from June 20 to July 12. The Second Quarter Gambella Regional Guinea Worm Meeting was held on July 19-20, which featured presentations by Gog and Abobo districts. The EDEP held its third Press Conference of 2016 on September 1 at the Federal Ministry of Health, in the presence of a dozen journalists from various media. Deputy EPHI Director Dr. Daddi Jimma and Carter Center Country Representative Dr. Zerihun Tadesse briefed the media representatives on the current status of the program and emphasized the need for public awareness and the role of journalists in improving awareness about the program and the need to report suspected cases to authorities promptly.

The Vice-President of Gambella Region, Mr. Senay Akwor, and the Regional Deputy, Zonal, and Water Bureau Heads, Gog District Administrative Representative, and press media visited the EDEP in Gog Woreda (District) on Saturday, September 3rd. The visit was basically an advocacy visit to get Gog Woreda Council and RHB to take ownership of the program. They started the visit in Atheti Sub office with community members then visited the case containment center in Pugnido Town, where they met with other Gog district officials.

#### **MALI: NO CASES IN HUMANS, 3 INFECTED DOGS IN JANUARY-AUGUST**



Mali has reported four infected dogs so far in 2016. All four were detected in Tominian district of Segou Region and three of the four were contained. Three of the dogs had one Guinea worm each, and one dog had six worms emerged. The program has reported no cases of GWD in humans in January-August. A total of 698 villages are under active surveillance, and all 5 Guinea worm patients of 2015 are monitored several times each month. However, increased insecurity in Gao, Timbuktu and Mopti Regions is a big challenge for Mali's GWEP.

Minister of Health the Honorable Dr. Marie Madeleine Togo has asked the national coordinator to submit a weekly report to her on the status of Mali's GWEP and its interventions. Twenty-seven (27) local radio stations broadcast health education messages about GWD in July. Cash reward surveys in Gao, Gourma Rharous, and Tominian districts and Segou Region reported an average of 77% of 897 persons surveyed in Level 1 (endemic) and Level 2 (at-high risk) areas, and 42% of 785 persons surveyed in Level 3 (GW-free) areas were aware of the cash reward for reporting a case of GWD, while 44% of persons in Level 1 and 2 areas knew of the cash reward for reporting and tethering an infected dog, and 0% of persons in Level 3 areas were aware.

Mali's National Commission for the Certification of Guinea Worm Eradication met on August 15, 2016. UNICEF supported a training session for commission members on criteria and procedures for certification of Guinea worm elimination on August 18-19. Supported by WHO, one team led by the commission visited Mopti Region and a second team visited Sikasso Region simultaneously on August 21-31. Mali's GWEP has set dates to hold its annual review meeting on January 25-26, 2017.

#### **IN BRIEF:**



**South Sudan** has reported 4 confirmed cases (3 contained), all in June, in 2 counties west of the Nile (Table 4). The South Sudan Guinea Worm Eradication Program (SSGWEP) secretariat held a planning meeting in Kampala, Uganda on August 9-10. Participants included SSGWEP director Mr. Samuel Makoy, data manager Mr. Kevin

Table 4

South Sudan Guinea Worm Eradication Program  
Line Listing of Cases of GWD During 2016\*

Case #	Village or Locality of Detection			Payam	County	Age	Sex	Date GW Emerged	Case Contained?		1 = Imported 2 = Indigenous	Home Village or Locality			Presumed Source of Infection Identified?		Presumed Source of Infection is a Known EVA?	
	Name	1 = VAS	2 = VNAS						(Yes, No, or Pending)	If No, Date of Abate Rx*		Name	1 = VAS	2 = VNAS	(Yes / No)	Description	(Yes / No)	Actions?
1.1	RUMCHIETH	1		WUNLIT	TONJ EAST	29	F	4-Jun-16	NO	4/Jun/16	2	RUMCHIETH	1		YES	RUMCHIETH	YES	ABATE WAS ALREADY APPLIED, BANDAGING AND HEALTH EDUCATION DONE
2.1	ANGON	1		UDICI	JUR RIVER	13	F	9-Jun-16	YES	NA	2	ANGON	1		YES	WATER SOURCES AROUND THE HOUSEHOLD IN ANGON	YES	ABATE WAS ALREADY APPLIED, BANDAGING AND HEALTH EDUCATION DONE
2.2								2-Jul-16										
2.3								6-Jul-16										
3.1	ANGON	1		UDICI	JUR RIVER	26	M	25-Jun-16	YES	NA	2	ANGON	1		YES	WATER SOURCES AROUND THE HOUSEHOLD IN ANGON	YES	ABATE WAS ALREADY APPLIED, BANDAGING AND HEALTH EDUCATION DONE
3.2								3-Jul-16										
3.3								5-Jul-16										
3.4								17-Jul-16										
4.1	ANGON	1		UDICI	JUR RIVER	47	F	27-Jun-16	YES	NA	2	ANGON	1		YES	WATER SOURCES AROUND THE HOUSEHOLD IN ANGON	YES	ABATE WAS ALREADY APPLIED, BANDAGING AND HEALTH EDUCATION DONE
4.2								28-Jun-16										
4.3								1-Jul-16										
4.4								9-Jul-16										
4.5								24-Jul-16										

VAS = villages under active surveillance. VNAS = villages not under active surveillance

Gardens = Farming areas of villages

CC = Cattle Camp

CCC = Case Containment Center



Abio, and Mr. Craig Withers, Ms. Sara Yerian and Ms. Giovanna Steel of The Carter Center. The Annual Review of the SSGWEP is tentatively scheduled for December 11-12, 2016.



**Kenya** moved a step towards certification last July by submitting a Draft of Country Report, accompanied by a signed declaration of the Ministry of Health that the country has met the statutory requirements to be certified free of Guinea worm disease transmission. This follows over three years of intensive implementation of pre-certification activities nationwide with financial and technical support from WHO. As a follow-up to this, a WHO team from HQ and AFRO/ISTWA, respectively Dr Dieudonné P. Sankara and Dr Seidu Andrew Korkor visited Kenya to give orientation to the WHO County office and Ministry of Health/GWEP on the remaining processes and preparations leading to the visit of the International Certification Team (ICT). During the 3-day mission, the team met and held discussions with the WHO Country Representative and Disease Prevention and Control Officer, the Representative of the Minister of Health, Head of the Vector Borne Disease of the Kenya Ministry of Health and her team of Technical Officers in the GWEP, the Chairperson of the National Certification Committee, the Focal Point for WASH at UNICEF and a Director at the Ministry of Water and Irrigation. The team explained the purpose and processes of ICT missions and the technical and administrative preparations that need to be put in place prior to such a mission. The team later debriefed the Cabinet Secretary of the Ministry of Health, who was represented by a Deputy Director at the Ministry, Dr. Isaac Odongo. He pledged the ministry's support to ensure a successful ICT mission. At the end of the mission however, in the light of the level of preparations to be made, it was generally accepted that a proposed date of November 2016 or February 2017 would be considered for the ICT mission. WHO is continuing to closely work with Kenya, monitor progress of preparations and provide the necessary Technical and financial assistance that may be required to adequately prepare the country for the ICT mission.

**The Democratic Republic of Congo (DRC)** made significant progress towards certification with the completion of the first phase of a second round of phased Technical Assistance to the Country to support the country in their preparations towards certification. The experts, provided by WHO, have been assisting the national authorities through capacity building, nationwide case searches, publicity of the cash reward and investigation of rumours, as well as collection of relevant field data, to support the preparation of the Country report for certification. Three of the five experts, who have been assisting the country during the past three months, finished their mission last month. The remaining two members of the team will complete their assignment in mid-September 2016. This exercise is a continuation of heightened technical and financial assistance to DRC by WHO. The overall objective is to strengthen the capacity of national authorities as well as work with them to implement critical activities in their road map to certification. The Country's target is to finalize the case searches by first quarter of 2017 and seek certification thereafter.

**Sudan** An External Evaluation Mission was conducted in Sudan from 7 to 22 August 2016 to prepare the country for an International Certification Team (ICT) mission, which may occur in 2017. The mission was led by Prof. Robert Guiguimbde – ICCDE Member, and comprised Ms Junerlyn Farah Agua – WHO HQ, Dr Albis Gabrielli-WHO EMR, Dr Ashok Kumar from India and Dr Reda Ramzi from Egypt, as well as 6 experts from Sudan. The team visited 9/18 states (South, East, North and West Darfur, South, North and West Kordufan, Khartoum and Gedarif), 38 Districts, 45 health facilities, and interviewed 1790 individuals from the 101 communities including villages, urban areas, marketplaces, refugee camps/IDP camps/nomads and some schools. A total of 46.9% of 1,583 respondents can recognize guinea worm disease from photo ID card. About 35.7% of the community knew about the reward for voluntary reporting a Guinea worm disease case; the percent of persons who knew the existence of the cash reward was high among the village chief/volunteer (67.3%) and among health staff (90.5%).

Table 5

**Number of Reported Cases of Guinea Worm Disease Contained and Number Reported by Month during 2016\***  
(Countries arranged in descending order of cases in 2015)

COUNTRIES WITH ENDEMIC TRANSMISSION	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED													% CONT.
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	
CHAD	0 / 0	1 / 1	0 / 0	1 / 1	1 / 1	0 / 1	0 / 1	/	/	/	/	/	3 / 5	60%
MALI §	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	/	/	/	/	/	0 / 0	-
SOUTH SUDAN	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	3 / 4	0 / 0	/	/	/	/	/	3 / 4	75%
ETHIOPIA	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	1 / 1	0 / 0	/	/	/	/	/	2 / 2	100%
TOTAL*	0 / 0	1 / 1	0 / 0	1 / 1	2 / 2	4 / 6	0 / 1	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	8 / 11	73%
% CONTAINED	0%	100%	0%	100%	100%	67%	100%						67%	

\*Provisional

Cells shaded in black denote months when zero indigenous cases were reported. Numbers indicate how many imported cases were contained and reported that month.

Cells shaded in yellow denote months when a case of GWD did not meet all case containment standards.

§Reports include Kayes, Koulikoro, Segou, Sikasso, and Mopti, Tinbuktou, Gao, and Kidal Regions; reports from Kidal Region are contingent on security conditions during 2016 and times when the GWEP is able to deploy a technical advisor to Kidal Region to oversee the program there.

**Number of Reported Cases of Guinea Worm Disease Contained and Number Reported by Month during 2015**  
(Countries arranged in descending order of cases in 2014)

COUNTRIES WITH ENDEMIC TRANSMISSION	NUMBER OF CASES CONTAINED / NUMBER OF CASES REPORTED													% CONT.
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL*	
SOUTH SUDAN	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	1 / 2	0 / 1	0 / 0	0 / 0	0 / 1	0 / 0	2 / 5	40%
MALI §	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 1	0 / 0	3 / 3	0 / 1	0 / 0	3 / 5	60%
CHAD	0 / 0	0 / 1	0 / 2	0 / 1	0 / 0	0 / 2	0 / 1	0 / 1	0 / 0	0 / 1	0 / 0	0 / 0	0 / 9	0%
ETHIOPIA	0 / 0	0 / 0	0 / 0	0 / 0	1 / 1	0 / 0	0 / 0	1 / 1	0 / 0	1 / 1	0 / 0	0 / 0	3 / 3	100%
TOTAL*	0 / 0	0 / 1	0 / 2	0 / 1	1 / 1	1 / 3	1 / 3	1 / 4	0 / 0	4 / 5	0 / 2	0 / 0	8 / 22	36%
% CONTAINED	0%	0%	0%	0%	100%	33%	33%	25%	0%	80%	0%	0%	36%	

Cells shaded in black denote months when zero indigenous cases were reported. Numbers indicate how many imported cases were contained and reported that month.

Cells shaded in yellow denote months when transmission of GWD from one or more cases was not contained.

§Reports include Kayes, Koulikoro, Segou, Sikasso, and Mopti, Tinbuktou, Gao, and Kidal Regions; reports from Kidal Region were contingent on security conditions during 2015 and times when the GWEP was able to deploy a technical advisor to Kidal Region to oversee the program there.

The team made some recommendations to the MoH to take the necessary action to increase the level of awareness of the general population and heighten cross border surveillance especially in areas bordering South Sudan.



Portions of the exhibit Countdown to Zero, which was inaugurated at the American Museum of Natural History in New York City in January 2015, were incorporated into a temporary infectious diseases exhibition at the Boston Museum of Science from early August to end of September 2016.

## GERMAN FEDERAL MINISTRY OF EDUCATION AND RESEARCH SUPPORTS THE GLOBAL ERADICATION CAMPAIGN

The Carter Center is grateful for the German Federal Ministry of Education and Research's (BMBF) contribution of 433,652€ (~US\$485,690) to support the Guinea Worm Eradication Program in 2016-2018.

## RECENT PUBLICATIONS

Eberhard ML, Cleveland CA, Zirimwabagabo H, Yabsley MJ, Ouakou PT, Ruiz-Tiben E. Guinea Worm (*Dracunculus medinensis*) infection in a wild-caught frog, Chad. *Emerg Infect Dis.* [cited 2016 Sep 5]. <http://dx.doi.org/10.3201/eid2211.161332>

Inclusion of information in the Guinea Worm Wrap-Up  
does not constitute "publication" of that information.

In memory of BOB KAISER

Note to contributors:

Submit your contributions via email to Dr. Sharon Roy ([gwwrapup@cdc.gov](mailto:gwwrapup@cdc.gov)) or to Dr. Ernesto Ruiz-Tiben ([ernesto.ruiz-tiben@cartercenter.org](mailto:ernesto.ruiz-tiben@cartercenter.org)) by the end of the month for publication in the following month's issue. Contributors to this issue were: the national Guinea Worm Eradication Programs, Drs. Donald R. Hopkins and Ernesto Ruiz-Tiben of The Carter Center, Drs. Sharon Roy of CDC, Dr. Dieudonné Sankara of WHO, and Mark Eberhard.

*WHO Collaborating Center for Research, Training, and Eradication of Dracunculiasis, Center for Global Health, Centers for Disease Control and Prevention, Mailstop C-09, 1600 Clifton Road NE, Atlanta, GA 30333, USA, email: [gwwrapup@cdc.gov](mailto:gwwrapup@cdc.gov), fax: 404-728-8040. The GW Wrap-Up web location is <http://www.cdc.gov/parasites/guineaworm/publications.html#gwwp>*

Back issues are also available on the Carter Center web site English and French are located at [http://www.cartercenter.org/news/publications/health/guinea\\_worm\\_wrapup\\_english.html](http://www.cartercenter.org/news/publications/health/guinea_worm_wrapup_english.html).  
[http://www.cartercenter.org/news/publications/health/guinea\\_worm\\_wrapup\\_francais.html](http://www.cartercenter.org/news/publications/health/guinea_worm_wrapup_francais.html)



CDC is the WHO Collaborating Center for Research, Training, and Eradication of Dracunculiasis